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REMARKS

Claim 12 is the only independent claim in the case, and it has been amended to further distinguish the applicant's invention from the cited references. At this time, the former claim 12, as well as all of the dependent claims, stand rejected under 35 USC §102(b) as being anticipated by either the Guergov patent (U.S. No. 6,019,918) or the Shah et al. patent (U.S. No. 5,558,824).

The Applicant's invention provides an improved gas-assisted injection molding system for making parts and components in which a spill-over cavity is not needed or utilized. The mold is a sealed mold which is sealed by appropriate sealing members. The mold cavity is initially pressurized to a first pre-specified pressure by a first gas source. The system includes an electrically controlled valve which is infinitely pressure controlled and which is used to control and remove the gas from the mold cavity as desired. The valve is described in Paragraphs [0009] and [0011] in the specification and can be a Tescom servovalve as indicated in Paragraph [0024].

A gas control mechanism is also included and used to maintain the gas pressure in the mold cavity at a second pre-determined value. A plastic injection source is utilized to inject plastic into the mold cavity. This will increase the first pressure value until it reaches the second pressure value triggering the gas control mechanism. Any excess gas pressure will be vented by the electrically controlled infinitely pressure control valve.

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The system also includes a gas pin assembly and a second gas source. The gas pin assembly supplies gas into the plastic material in the mold cavity from the second gas source. As specified in one of the dependent claims (claim 14), the first and second gas sources could be the same gas source. Also, as specified in dependent claim 17, the gas pin assembly could be combined with one of the ejector pin assemblies.

In addition, as specified in claim 16, a pressure switch can be utilized to control the operation of the infinitely pressure control valve.

The gas injected into the plastic material in the system forces the plastic material into all portions of the mold cavity forming a completed part with a hollow interior. Additional plastic could be injected as needed. As the plastic material is forced into all portions of the mold cavity, the pressure control valve allows controlled venting of the pre-pressurized gas from the mold cavity.

Once the plastic material has solidified in the mold cavity, the pressurized gas inside the part is vented. Then the mold is opened and the part is ejected.

Neither the Guergov nor Shah patents disclose the Applicant's system as set forth in the amended claims. The Guergov patent does not specifically disclose how any gas counter pressure is relieved or vented. In addition, neither Guergov or Shah discloses the use of an electronically controlled gas relief valve to control the filling of the cavity by the plastic as the plastic is expanded by the internal gas pressure.

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It is believed that the claims remaining in this case as amended herein, namely claims 12-14 and 16-17, patentably distinguish over the cited references and are allowable. Accordingly, favorable consideration of the claims and passage of the application to allowance are respectfully solicited.

The Commissioner is authorized to charge any fees due in filing this Preliminary Amendment to Deposit Account No. 50-0476.

Respectfully submitted,

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